Microsoft Windows Server 2012 R2 For Dell PowerEdge Systems
Installation Guide

Notes, Cautions, and Warnings

NOTE: A NOTE indicates important information that helps you make better use of your computer.

CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

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2014 - 08

Rev. A01

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1

Introduction

This document provides information on installing the Microsoft Windows Server 2012 R2 operating system for Datacenter, Standard, Foundation, and Essentials edition.

Setting up the preinstalled Microsoft Windows Server 2012 R2 operating system

This section provides information on procedures required for completing the set up of the Microsoft Windows Server 2012 R2 operating system preinstalled on your system.

NOTE: Before you begin, see the documentation that shipped with the operating system for important product information. For additional information on completing the installation, see the documentation included with your software or see **support.microsoft.com**.

To set up your Windows Server 2012 R2 operating system for Datacenter, Standard, Foundation, and Essentials edition:

1. Connect the keyboard, monitor, mouse, network cable, power cord, and other peripherals to your system.
2. Turn on your system.

   The **Settings** screen is displayed.
3. Select the appropriate language and click **Next** to complete the installation.

   NOTE: This screen is not displayed for Simplified or Traditional Chinese operating system.
4. Select the **I accept the license terms for Windows and this computer** option and click **Accept**.

   NOTE: You cannot proceed with the installation if you do not choose the **I accept the license terms for Windows and this computer** option.

   NOTE: Before using your system, read the software license agreements that are included with each program that you ordered.
5. Select your **Country or Region**, **Language**, and **Keyboard** layout and click **Next**.

   The system prompts you to change the administrator password before logging in for the first time.
6. Enter the administrator password and click **Finish**.

   NOTE: This procedure may take several minutes to complete.

   NOTE: The password must conform to the password complexity rules. For more information about password complexity rules, see your operating system documentation.

   The password is changed and you can login using the new password. A Dell Customized help file is displayed with various value added scripts/add-ins provided with your system.
7. Read the help file and click **Proceed**.
8. Use the password set in step 6 to log in to your system.

The **Server Manager Dashboard** is displayed. Use the dashboard to configure your system with different roles and features.

9. To configure your system for Windows Sever 2012 R2 Essentials edition:
   a. After reboot, the **Set Up Windows Server 2012 R2 Essentials** page is displayed. Click **Change system date and time settings** to select the date, time, and time zone settings for your server and click **Next**.

      The **Choose server installation mode** page is displayed.
   b. On the **Choose server installation mode** page, select the appropriate installation mode and provide the required data. For a new installation select **Clean install**. Proceed with required inputs to configure your install.

      For detailed steps on configuring your Windows Server 2012 R2 Essentials install, see **technet.microsoft.com/en-us/sbs/jj159331.aspx**
   c. Create the **Administrator user account** and **Standard user account** and complete the installation.
10. In the **Settings** screen, enter the password, confirm the password, and click **Finish**.
11. The system is locked now and you can log into the system by pressing <Ctrl> + <Alt> + <Delete>.
12. Enter the administrator password and press <Enter> to log into the system.

The operating system installation is now complete.

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Installing and reinstalling Microsoft Windows Server 2012 R2

You can use one of the following methods to install the Microsoft Windows Server 2012 R2 operating system if you do not have it installed on your server or if you wish to reinstall it:

- Installing using the Dell OpenManage 7.4
- Installing using the Dell LifeCycle Controller
- Installing using the Operating System (Microsoft Windows Server 2012 R2) media

Using the Dell OpenManage 7.4

CAUTION: Backup all data from the system before installing or upgrading the operating system.

NOTE: Dell OpenManage 7.4 provides the latest drivers for Windows Server 2012 R2 and complete support for Windows Server 2012 R2 Standard, Foundation, Datacenter, and Essentials edition.

NOTE: This method of installation is supported in both BIOS and UEFI modes.

You must configure the system to boot from the optical drive. To install the operating system using the Dell Systems Management Tools and Documentation media:

1. Connect the keyboard, monitor, mouse, and any additional peripherals to your system.
2. Turn on the system and the attached peripherals.
3. Insert the *Dell Systems Management Tools and Documentation* media into the optical drive.
4. Press <F2> when you are prompted to run the setup utility.

   The **BIOS Settings** screen is displayed.

   NOTE: You can press <F11> and directly boot from the DVD ROM and skip to step 7.
5. Using the arrow keys, scroll to the **Boot setting → Boot Sequence** field and press <Enter>.
6. Configure the DVD ROM drive to be the first boot option and press <Esc> to exit the **BIOS Settings** screen.

   The system now prepares to boot from the optical drive.

   The *Dell Systems Management Tools and Documentation* media menu launches with several options.
7. Select **Dell Systems Build and Update Utility**.

   The system now boots from the selected option and the **Dell Systems Build and Update Utility** screen is displayed.

   NOTE: This may take several minutes depending on the speed of the drive.
8. In the **Welcome to the Dell Systems Build and Update Utility** section, select the language when prompted. Read and accept the Dell software License agreement.
9. In the **Systems Build and Update Utility** home page, select **Configure against Server OS Installation**.

10. Set the time and time zone and click **Continue**.

    The **Select Operating System** screen is displayed with a list of compatible operating systems.
11. Choose **Microsoft Windows Server 2012 R2** .
12. Click **Continue**.

    The **Select RAID Configuration** screen is displayed. If RAID has been configured, the screen displays the existing RAID configuration details.
13. Select **Retain existing configuration on the system**. If RAID is not configured, you can configure it at this time and click **Continue**.

    The **Operating System Installation Summary** screen is displayed, with the installation options that you have selected.
14. Click **Back** to change the installation options. If the options displayed are accurate, click **Apply Now**.
15. The operating system installation begins.

    CAUTION: The Dell Systems Build and Update Utility screen prompts you to remove the media after all the installation settings are finalized. Remove the *Dell Systems Management Tools and Documentation* media. The system reboots to local hard drives and then prompts for the Windows installation media. Do not boot directly to the optical drive at this stage.
16. Insert the Windows installation media in the optical drive and click **OK**.

    If the correct media for installation is found during installation, the following message is displayed:

    ```
    Valid Operating System installation media was found
    ```
17. Press **OK** to continue with installation.

    CAUTION: All system partitions are erased along with all data on the local hard drives.
18. Select the appropriate language that you want to deploy.

    NOTE: This screen is not displayed for Simplified or Traditional Chinese versions of operating system.
19. In the **Windows Setup** screen, select the appropriate option for **Language**, **Time and Currency Format**, and **Keyboard or Input Method**.
20. Click **Next** to continue.
21. On the next screen, click **Install Now**.

    NOTE: In Windows Server 2012 Essentials edition, on clicking **Install Now**, the **License terms** window is displayed.
22. In the **Operating System Install** screen, select the appropriate operating system you want to install. Click **Next**.

    The **License Agreement** window is displayed. Read the information carefully. If you agree with all of the information, select **I accept the license terms** .
23. Click **Next**.
24. In the **Which Type of Installation Do You Want** screen, click **Custom: Install Windows only (advanced)**, if it is not selected already.
25. In the **Where do you want to install Windows** screen, specify the partition on which you want to install the operating system.

    To create a partition and begin installation:

    a. Click **Drive options (advanced)** → **New**.
    b. Specify the size of the partition in MB, and click **Apply**.

The following message is displayed:

```
To ensure that all Windows features work correctly, Windows might create
additional partition for system files
```

c. Click **OK**.

NOTE: The recommended minimum partition size for the Primary partition is 50 GB. If you are installing additional memory on your system, you may require additional primary partition space to accommodate page file and hibernation. During installation, a recommended partition size is displayed on the screen based on the memory size of your system. Follow the instructions on the screen. If you select Core installation, you may require less hard drive space for the Primary partition. For information on drive partitioning see "Partitioning a Drive".

26. Select the newly-created operating system partition and click **Next**. The **Installing Windows** screen is displayed and the installation process begins.

After the operating system is installed, the system reboots. You must set the administrator password before you can log in for the first time.

27. To configure your system for Windows Sever 2012 R2 Essentials edition:

NOTE: For Windows Sever 2012 R2 Essentials edition, after the installation is complete you must configure the system before setting the administrator password.

a. After reboot, the **Set Up Windows Server 2012 R2 Essentials** page is displayed. Click **Change system date and time settings** to select the date, time, and time zone settings for your server and click **Next**.

The **Choose server installation mode** page is displayed.

b. On the **Choose server installation mode** page, select the appropriate installation mode and provide the required data. For a new installation select **Clean install** and to migrate from an existing operating system select **Server migration**. Proceed with required inputs to configure your install.

For detailed steps on configuring your Windows Server 2012 R2 Essentials install, see **technet.microsoft.com/en-us/sbs/jj159331.aspx**

c. Create the **Administrator user account** and **Standard user account** and complete the installation.

28. Set the administrator password before you can log in for the first time.

29. In the **Settings** screen, enter the password, confirm the password, and click **Finish**.

The operating system installation is complete.

Using the Dell LifeCycle Controller

To install Microsoft Windows Server 2012 R2 for Standard, Datacenter, Foundation, and Essentials edition using the Dell LifeCycle Controller:

1. Connect the keyboard, monitor, mouse, and any additional peripherals to your system.

2. Turn on the system and attached peripherals.

3. Press <F10> in the POST to start the **System Services**.

For 11th generation Dell servers, the following messages are displayed:

```
Initializing UEFI. Please wait...
```

and

```
Entering System Services...Starting LifeCycle Controller
```

For 12th generation Dell servers, the following message is displayed:

```
Entering Lifecycle Controller
```

4. In the **LifeCycle Controller** window, click the appropriate option if you want to configure hardware, diagnostics, or set changes.

   If no changes are required, select **OS Deployment**.

5. In the **Operating System Deployment** window, click **Deploy OS**.

   The **Configure or Skip RAID** window is displayed. If Redundant Array of Independent Disks (RAID) is configured, the window displays the existing RAID configuration details.

6. Select **Go Directly to OS Deployment**.

   If RAID is not yet configured, configure it at this time.

7. Click **Next**.

   The **Select Operating System** window is displayed with a list of compatible operating systems.

8. Choose **Microsoft Windows Server 2012 R2** and click **Next**.

   NOTE: If **Microsoft Windows Server 2012 R2** is not listed, select **Any Other Operating System** and click **Next**.

9. Choose whether you want to deploy the operating system in UEFI or BIOS mode, and click **Next**.
10. In the **Insert OS Media** window, insert the *Windows Server 2012 R2* media and click **Next**.
11. In the **Reboot the System** screen, follow the instructions on the screen and click **Finish**.

    If a Windows operating system is installed on your system, the following message is displayed:

    ```
    Press any key to boot from the CD/DVD...Press any key to begin the
    installation
    ```

12. In the **Windows Setup** screen, select the appropriate option for **Language, Time and Currency Format**, and **Keyboard or Input Method**.
13. Click **Next** to continue.
14. In the **Windows Server 2012 R2** screen, click **Install Now**.

    The **Operating System Install** screen is displayed.

15. In the **Operating System Install** screen, select the operating system and click **Next**.

    The **License terms** window is displayed.

16. Read the information carefully. If you agree with all the information, select **I accept the license terms** and click **Next**.
17. In the **Which Type of Installation Do You Want** screen, select **Custom: Install Windows only (advanced)**, if it is not selected already.
18. In the **Where do you want to install Windows** screen, specify the partition on which you want to install the operating system.

    To create a partition and begin installation:

    a. Click **New**.
    b. Specify the size of the partition in MB, and click **Apply**.

       The following message is displayed:

       ```
       Windows might create additional partition for system files
       ```

    c. Click **OK**.

NOTE: The recommended minimum partition size for the primary partition is 40 GB and for the Essentials Edition is 60 GB.. If you are installing additional memory on your system, you may require additional primary partition space to accommodate page file and hibernation. During installation, a recommended partition size is displayed on the screen based on the memory size of your system. Follow the instructions on the screen. If you select **Core installation**, you require less hard drive space for the primary partition.

d. Select the newly created operating system partition and click **Next**. The **Installing Windows** screen is displayed, and the installation process begins.

After the operating system is installed, the system reboots. Set the administrator password before you can log in for the first time.

19. In the **Settings** screen, enter the password, confirm the password, and click **Finish**.
20. To configure your system for Windows Sever 2012 R2 Essentials edition:
    a. After reboot, the **Set Up Windows Server 2012 R2 Essentials** page is displayed. Click **Change system date and time settings** to select the date, time, and time zone settings for your server and click **Next**.

       The **Choose server installation mode** page is displayed.
    b. On the **Choose server installation mode** page, select the appropriate installation mode and provide the required data. For a new installation select **Clean install**. Proceed with required inputs to configure your install.

       For detailed steps on configuring your Windows Server 2012 R2 Essentials install, see **technet.microsoft.com/en-us/sbs/jj159331.aspx**
    c. Create the **Administrator user account** and **Standard user account** and complete the installation.
21. In the **Settings** screen, enter the password, confirm the password, and click **Finish**.
22. The system is locked now and you can log into the system by pressing <Ctrl> + <Alt> + <Delete>.
23. Enter the Administrator password and press <Enter> to log into the system.

The operating system installation is complete.

Using the operating system media

To install the Microsoft Windows Server 2012 R2 operating system for Standard, Datacenter, Foundation, and Essentials edition:

1. Connect a keyboard, monitor, mouse, and any additional peripherals to your system.
2. Turn on your system and any attached peripherals.

   Several BIOS screens are displayed during startup, but do not require any user intervention.

   NOTE: This method of installation is supported in the BIOS and UEFI modes.
3. Insert the *Microsoft Windows Server 2012 R2* media into the DVD drive.

   The following message is displayed:

   ```
   Loading Files
   ```

   NOTE: If a Windows operating system is installed on your system, the following message is displayed:

   ```
   Press any key to boot from the CD/DVD ... Press any key to begin the
   installation
   ```
4. After the files are loaded, click on the appropriate language that you want to deploy.

NOTE: This screen is not displayed for the Simplified or Traditional Chinese versions of operating system.

5. In the **Windows Setup** screen, select the appropriate **Language**, **Time & Currency**, and **Keyboard or Input** values and click **Next**.
6. In the **Windows Server 2012 R2** screen, click **Install Now**.

   The **Operating System Install** screen is displayed.

   NOTE: In Windows Server 2012 R2 Essentials edition, on clicking **Install Now**, the **License terms** window is displayed.
7. In the **Select the operating system you want to install** screen, select the operating system from the available list and click **Next**.

   The **license terms** window is displayed.
8. Read the information carefully. If you agree with all the information, select **I accept the license terms** and then click **Next**.
9. In the **Which type of installation do you want** screen, select **Custom: Install Windows only (advanced)** if it is not selected already.
10. In the **Where do you want to install Windows** screen, specify the partition on which you want to install the operating system.

    To create a partition and begin installation:

    a. Click **Drive options (advanced)** → **New**.
    b. Specify the size of the partition in MB, and click **Apply**. The following message is displayed:

    ```
    To ensure that all Windows features work correctly, Windows might create
    additional partition for system files
    ```

    c. Click **OK**.

    NOTE: The recommended minimum partition size for the Primary partition Standard, Datacenter, Foundation Edition is 40 GB and for the Essentials Edition is 60 GB. If you are installing additional memory on your system, you may require additional primary partition space to accommodate page file and hibernation. During installation, a recommended partition size is displayed on the screen based on the memory size of your system. Follow the instructions on the screen. If you select **Core installation**, you may require less hard drive space for the Primary partition. For information on drive partitioning see Partitioning A Drive.
11. Select the newly-created operating system partition and click **Next**.

    After the operating system is installed, the system reboots. Set the administrator password before you can log in for the first time.

    NOTE: For Windows Sever 2012 R2 Essentials edition, after the installation is complete you must configure the system before setting the administrator password.
12. To configure your system for Windows Sever 2012 R2 Essentials edition:
    a. After reboot, the **Set Up Windows Server 2012 R2 Essentials** page is displayed. Click **Change system date and time settings** to select the date, time, and time zone settings for your server and click **Next**.

       The **Choose server installation mode** page is displayed.
    b. On the **Choose server installation mode** page, select the appropriate installation mode and provide the required data. For a new installation, select **Clean install**. Proceed with required inputs to configure your install.

       For detailed steps on configuring your Windows Server 2012 R2 Essentials install, see **technet.microsoft.com/en-us/sbs/jj159331.aspx**.
    c. Create the **Administrator user account** and **Standard user account** and complete the installation.

13. In the **Settings** screen, enter the password, confirm the password, and click **Finish**.
    The system is locked.
14. To log in to the system, press <Ctrl+Alt+Delete>, enter the Admin password, and press <Enter>.

The operating system installation is complete.

NOTE: After you log into the system, you can use the **Server Manager Dashboard** to configure and manage different roles and features in the operating system.

Appendix—Partitioning a drive

Drive partitioning allows you to divide a physical hard drive into multiple virtual hard drives. Each virtual hard drive is called a partition. There are two types of partition schemes:

- Master Boot Record scheme
- GUID Partition Table scheme

Master boot record scheme

Master boot record (MBR) scheme is a legacy partition scheme that can be used by most operating systems. The total data storage space of a computer hard drive is divided into at a maximum four primary partitions.

GUID partition table scheme

GUID partition table (GPT) scheme is a new standard for the layout of the partition table on a physical hard drive. It is part of the extensible firmware interface (EFI) standard, which is a replacement for the system BIOS.

Choosing between partition schemes

NOTE: To change your partition scheme from BIOS to UEFI and vice versa during POST, press <F2>, select **Boot Settings**, and press <Enter>. Change the value of <Boot Mode> to BIOS or UEFI. For more information, follow steps 1 to 8 in Using The Dell LifeCycle Controller.

The main considerations for choosing between the partition schemes are:

- Hard drive size
- Operating system version
- Software tools used in the operating system

The MBR partition scheme is used across older versions of Microsoft operating systems. MBR partitioning scheme supports a volume size smaller than 2 TB. Use the GPT partition scheme for newer operating systems such as Microsoft Windows Sever 2012 R2, Windows Server 2008 R2, Windows Server 2008, and hard drive sizes larger than 2 TB.

NOTE: GPT boot (UEFI boot) is supported only on 11th generation Dell servers onwards.

NOTE: It is recommended that you use the GPT partition scheme as it is more flexible, supports larger hard drive sizes, and has a number of features and recovery mechanisms that are not available in the MBR partition scheme.

For more information on partitions and volumes, see partitions and volumes on **technet.microsoft.com**. For information on GPT, see the Windows and GPT frequently asked questions on **microsoft.com**.

3

Getting help

Documentation matrix

The documentation matrix provides information on documents that you can refer to, for setting up and managing your system.

To...	Refer to...
Install your system into a rack	Rack documentation included with your rack solution
Set up your system and know the system technical specifications	Getting Started Guide
Install the operating system	Operating system documentation at **dell.com/operatingsystemmamnuals**
Get an overview of the Dell Systems Management offerings	Dell OpenManage Systems Management Overview Guide at **dell.com/openmanagemanuals**
Configure and log in to iDRAC, set up managed and management system, know the iDRAC features and troubleshoot using iDRAC	Integrated Dell Remote Access Controller User's Guide at **dell.com/esmmanuals**
Know about the RACADM subcommands and supported RACADM interfaces	RACADM Command Line Reference Guide for iDRAC and CMC at **dell.com/esmmanuals**
Launch, enable and disable Lifecycle Controller, know the features, use and troubleshoot Lifecycle Controller	Dell Lifecycle Controller User's Guide at **dell.com/esmmanuals**
Use Lifecycle Controller Remote Services	Dell Lifecycle Controller Remote Services Quick Start Guide at **dell.com/esmmanuals**
Set up, use, and troubleshoot OpenManage Server Administrator	Dell OpenManage Server Administrator User's Guide at **dell.com/openmanagemanuals**
Install, use and troubleshoot OpenManage Essentials	Dell OpenManage Essentials User's Guide at **dell.com/openmanagemanuals**
Know the system features, remove and install system components, and troubleshoot components	Owner's Manual at **dell.com/poweredgemanuals**
Know about I/O module features, configure the I/O module and additional I/O module information	I/O module documentation at **dell.com/poweredgemanuals**

To...	Refer to...
Know the features of the storage controller cards, deploy the cards, and manage the storage subsystem	Storage controller documentation at **dell.com/storagecontrollermanuals**
See the event and error messages generated by the system firmware and agents that monitor system components	Dell Event and Error Messages Reference Guide at **dell.com/esmmanuals**

Contacting Dell

NOTE: Dell provides several online and telephone-based support and service options. If you do not have an active Internet connection, you can find contact information on your purchase invoice, packing slip, bill, or Dell product catalog. Availability varies by country and product, and some services may not be available in your area.

To contact Dell for sales, technical support, or customer-service issues:

1. Go to **dell.com/support**.
2. Select your country from the drop-down menu on the top left corner of the page.
3. For customized support:
   a. Enter your system service tag in the **Enter your Service Tag** field.
   b. Click **Submit**.
      The support page that lists the various support categories is displayed.
4. For general support:
   a. Select your product category.
   b. Select your product segment.
   c. Select your product.
      The support page that lists the various support categories is displayed.

Downloading and installing drivers and firmware

It is recommended that you download and install the latest BIOS, drivers, and systems management firmware on your system.

NOTE: Ensure that you clear the web browser cache.

1. Go to **dell.com/support/drivers**.
2. In the **Product Selection** section, enter the service tag of your system in the **Service Tag or Express Service Code** field.

   NOTE: If you do not have the service tag, select **Automatically detect my Service Tag for me** to allow the system to automatically detect your service tag, or select **Choose from a list of all Dell products** to select your product from the **Product Selection** page.
3. Click **Get drivers and downloads**.
   The drivers that are applicable to your selection are displayed.
4. Download the drivers that you require to a diskette drive, USB drive, CD, or DVD.

Documentation feedback

If you have feedback for this document, write to **documentation_feedback@dell.com**. Alternatively, you can click on the **Feedback** link in any of the Dell documentation pages, fill out the form, and click **Submit** to send your feedback.